

ABSTRACT

The invention chimeric organism comprises a chimeric surface integrin-like fusion protein in which the I domain has been replaced by an antibody fragment that binds a disease-associated antigen on a cell. Binding of the antibody fragment to the disease-associated antigen triggers virulent transformation of the chimeric pathogenic organism so as to cause the organism to infiltrate the target cell with specificity. Preferably, the chimeric organism is a chimeric pathogenic *C. albicans* having an INT1 fusion protein in which the I domain is replaced by an antibody fragment, preferably a single chain antibody, and in which expression of an iron transporter gene necessary for infiltration of a target cell is triggered under the control of a EFG1p response element. Binding of the antibody to the disease-associated antigen causes filamentous transformation in the chimeric pathogenic *C. albicans* and specific infiltration of target cells. The invention chimeric pathogenic organisms are used in therapeutic methods to specifically infiltrate and destroy diseased cells to which the antibody fragment binds while remaining non-pathogenic to normal cells.